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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/220,724	12/24/1998	AARON ABBOTT	P-5351	3040

24510 7590 11/25/2003

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EXAMINER	
PRIETO, BEATRIZ	
ART UNIT	**PAPER NUMBER**
2142	28

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/220,724	ABBOTT ET AL.	
	Examiner	Art Unit	
	B. Prieto	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *1-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☒ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This communication is in response to Amendment E, filed 09/29/03; claims 1-9 remain pending and are hereby set forth for examination.

2. In regards to amendment to the claims, specifically, the limitation "said first and second software packages including a transfer control file allowing ascertainment of a shortest route to said target node". The portions of the disclosure that according to applicant supports this amendment have been considered. In this case, page 8, lines 6-12, describes that the software package include a list of all the target nodes to which the packet is to be transmitted and that any branch node checks its routing table, to ascertain the shortest route to all of the nodes to which it is to transmit the package. Page 10, line 1-5 relates to the repacking procedure, and contains no description regarding the ascertainment of the shortest route. It is not clear where particulary in the disclosure is there support for this amendment.

Applicant's attention is directed to page 6, lines 16 to page 7, line 7, wherein the specification disclose that ascertaining of the shortest route to a target node is well know in the art (see MPEP §2129). Additionally, the transfer control file is used for generating or repacking software specifically, it provides the knowledge to determine which software packages are required (see page 11, lines 6-18).

3. Quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejection set forth in this Office action may be found in previous office action(s).

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otto U.S. Patent No. 5,706,431 in view of Shing et. al. (Shing) U.S. Patent 5,495,610 in further view of Applicant's admitted prior art (see MPEP §2129).

Regarding claims 1, 8, and 9, Otto teaches an system/method for hierarchical distribution (col 3/lines 29-49) of software allowing distribution of a software package (col 4/lines 4-14) comprising at least a first and second package to a plurality of target nodes (col 8/lines 59-61), said apparatus comprising:

a distribution (provider/vendor) node for transmitting packages of software (col 2/lines 45-58, col 4/lines 4-14, distributor in communication with branch (110) node, col 11/lines 59-64); therefore distributing a software package to a first and second node received from a branch node with received said package from distribution node over common network link;

at least one branch (110) node in communication with said distribution node (col 4/lines 6-col 5/line 18) arranged received revision files (col 2/lines 45-58, software package, software files, col 8/lines 59-62) to be stored therewith from any source (col 8/line 22-26); and

first (120a) and second (120b) target nodes, said first target node being in communication with said branch (110) node via a first network link, and said second target node being in communication with said branch node via a second network link (col; 4/lines 61-col 5/line 31, Fig. 1, col 5/lines 31-52); said first package already being present on said second target node, contents of said second package are determined by a distribution server before the contents are distributed thereby distributing in accordance to said packages and packages already present in target node (means for determining packages comprising a software package that are present on said second target node, col 5/lines 45-52, determining files already present, col 8/lines 63-col 9/line 11, node level presence determination means, col 10/lines 22-37, therefore thereafter sending only required package software to said (second) target node based on existing software package; and sending only required software package to said first target node; whereby both the first and second packages are distributed to both said first and second target nodes;

each branch (110) node being arranged to receive a software package comprising a plurality of packages (col 8/lines 55-63)) from said distribution node independently (col 8/lines 22-26);

each branch node being arranged to ascertain which software packages are required for transmission to the target nodes (Otto: col 5/lines 45-52, col 8/lines 63-col 9/line 11, and col 10/lines 22-37),

said branch node being arranged to transmit said first package via said first and second network links to said first and second target nodes, and said second package via said second network link to said second target node (col 5/lines 45-52, col 10/lines 44-50); and

said target nodes being arranged to install each package once the package is received (col 9/lines 26-38, 53-58, means for installing received package); however Otto does not explicitly where the software is particularly hierarchical software nor where nodes are configured to ascertain the shortest route to said target nodes;

Shing teach a system/method for hierarchical software distribution (software distribution, col 3/lines 50-65, hierarchical software, col 2/lines 24-35), software package comprising at least a first and second package (col 7/lines 3-12), system comprising a distribution (1) node and a branch (2) node (Figs. 1-2) and multiple target (3) nodes, all nodes in communication with one another, teaching means for the branch node to distribute to individual target nodes based on the software instances (i.e. the build release,

col 5/lines 66-col 6/line 3) to be distributed; however Otto nor Shing explicitly teach were the nodes are configured to ascertain the shortest route to said target nodes;

Applicant discloses as prior art that routing tables on a node providing the shortest route available to other target nodes are architecture well known and there are well developed algorithms for maintaining routing tables which will provide appropriate routing to generate spanning trees from any source to any plurality of destinations (e.g. Spanning Tree 802.1(d) IEEE standard protocol for routing, loop detection and Spanning Tree avoidance in a network of MAC bridges) (see specification page 6, lines 15-page 7, line 2).

It would have been obvious to one ordinary skilled the art at the time the invention was made to include means for distributing hierarchical software as taught by Shing, motivation would be to enhance existing system with means to determine all programs and process associated with a hierarchical software application that has been modified and identify corresponding target workstation nodes that require said modified programs and process and distributing accordingly. One ordinary skilled in the art given Otto teaches for distributing software packages to a plurality of target nodes, would be motivated to provide Otto's system with a reliable and cost effective distribution of data including the use of standard communication protocols such as OSPF for ensuring the transmission of software in the less expensive and rapid fashion possible (see additional pertinent references below).

Regarding claim 2, the combined teachings as discussed above, teach an apparatus according to Claim 1 wherein said software package is sent as a contiguous package over said first network link (Otto, col 5/lines 7-30).

Regarding claim 3, the combined teachings as discussed above, further teach wherein said first branch node is provided with information regarding which packages should be forwarded to which target nodes (Otto: means for receiving col 8/lines 63-col 9/line 1, col 10/lines 22-37).

Regarding claim 4, the combined teachings as discussed above, further teach wherein said first branch node is in communication with said first target node via a second branch node, said second branch node being in communication with said first branch node via said first network link, and said second branch node being in communication with said first target node via a third network link; said second branch node being further in communication with a third target node via a fourth network link (Otto; col 7/lines 50-col 8/line 5).

Regarding claim 5, the combined teachings as discussed above, further teach wherein each of said branch nodes is provided with information regarding target nodes to which each branch node is responsible for sending said packages and which of said first and second packages are required by said nodes (col 2/lines 24-44, associated responsibility levels, col 3/line 29-49, col 12/lines 23-52, each node responsible for sending packages required by associated other node(s); and wherein each branch node forwards the information to subsequent nodes along each branch, editing said information for each branch to include only target nodes reached via that branch (Otto: each node configured with communication means including the reception/transmission of signals including address, message or instruction to communicate information to other nodes, col 5/lines 19-31, means for forwarding to subsequent level node information, in response to information regarding target nodes which the acting branch node is responsible, col 5/lines 32-65, means for creating a revision (programs, subroutines, procedures, etc.) file for transmission, col 9/lines 19-26).

Regarding claim 6, the combined teachings as discussed above, further teach wherein each of said branch nodes is provided with information regarding the target nodes which require each of said first and second packages, and is further provided with information regarding which of said target nodes said branch node is responsible for forwarding information from said distribution node (Otto: col 8/line 22-43) and which immediate branches (links, paths or addresses) the branch node uses to reach each of said target nodes for which it is responsible (Otto: col 5/lines 22-31); whereby each branch node can ascertain which packages should be forwarded along each immediate branch (Otto: col 9/lines 31-62).

Regarding claim 7, the combined teachings as discussed above, further teach wherein said software package comprising plurality of files (Otto, i.e. two or more packages, col 8/lines 59-61), wherein first package comprises at least two sub packages (Otto, col 9/lines 19-26, file comprising a plurality of files, files comprising a plurality of sub files, col 10/lines 51-59) and wherein installation of said two sub packages on each of said target nodes must be performed in a specified order (col 10/line 51-59); wherein installation of one of said sub-packages has already occurred on said first target node (Otto: mean for identifying information already installed on said target node, col 8/lines 63-col 9/line 11, determining existing information on target node, information comprising, col 2/lines 50-53, revision comprising, col 5/lines 37-45); and wherein both of said sub packages are distributed to said first and second target node based on the determination of existence or lack of said sub-packages (Otto: col 8/lines 63-col 9/line 11).

Pertinent Prior Art:

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; pertinence is presented in accordance with MPEP§ 707.05. Copies of documents cited will be provided as set forth in MPEP§ 707.05(a):

U.S. Patent No. 4,905,233 (Feb. 1990)

Cain et. al. teaches a network management/routing mechanism where a source node uses the link metric updates, as periodically supplied from the other nodes of the network, to determine which potential communication routes that contain links extending from the source node and terminating at the destination node pass through neighbor nodes that are effectively closer to the destination node than the source node. A communications control processor at each node N_j maintains (in memory) a shortest path metric table that contains a list of the metrics of all shortest possible paths between that node N_i and all potential destination nodes. Using the set of link metrics accumulated through topology updates, any (source) node desiring to transmit a message to another (destination) node may construct a similar table of shortest path metric sums from each neighbor node, each of which totals to a value less than the value of the shortest path metric from that source node to the destination node.

U.S. Patent No. 5,095,480 (March 1992)

Fenner teaches a destination routing table 84 that contains the shortest path information from this node to the current connected nodes for each unique identification code currently stored in the source and destination index tables, this current route record is this shortest path information for the destination address currently in buffer 50. This information is computed from the messages received from forwarding nodes using a shortest path spanning tree algorithm well known in the art.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Prosecution of this application is closed by means of this final office action § 1.113, applicant may request continued examination of the application by filing a Request for Continued Examination of under 37 CFR § 1.114 and providing the corresponding fee set forth in § 1.17(e) for the submission of,

but not limited to, new arguments, an information disclosure statement, an amendment to the written description, claims, drawings, or new evidence in support of patentability. Or applicant whose claims have been twice rejected, may appeal from the decision of the administrative patent judge to the Board of Patent Appeals and Interferences under 35 U.S.C. §134.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Mark R. Powell can be reached on (703) 305-9703. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this final action should be mailed to:

Box AF

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or faxed to the Central Fax Office:

(703) 872-9306, for Official communications and entry

Or Telephone:

(703) 306-5631 for TC 2100 Customer Service Office

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

B. Prieto
TC 2100
Patent Examiner

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